ABSTRACT

A three-dimensional image for a set viewpoint wherein a user can control the viewpoint, effectively rotating the displayed image around at least the Y-axis. By tracking the position of the user and altering the viewpoint of the projected image, the image can be automatically rotated to suit the user's viewing position. The soundscape can also be altered to match the currently displayed viewpoint. The viewpoint can be controlled by the user, who is effectively able to "explore" the moving image. To provide a three-dimensional display environment, the invention utilizes at least two stacked display layers, enabled by using stacked Transparent Organic Light Emitting Devices (TOLEDS), which are well known in the art. Color TOLED technology is itself stacked display technology, having multiple layers, each of a differing color, namely cyan, magenta, yellow and black or red, green and blue. In TOLED technology the layers are bound so close together, that as they are lit with differing layers being on and off, and each having a separate intensity, it is possible to reproduce pixels having a wide range of color variation. As TOLEDs contain pixels, which in their non-illuminated state are transparent, it is a simple matter to have stacked TOLED's where the front layer contains transparent areas which allow details on subsequent layers to shine through to the user. The invention stacks the TOLEDs close together, but not necessarily absolutely adjacent, so that pixels from a scene can be spread among the several layers of stacked displays, which provides a greater sense of visual depth within the scene.